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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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			FAULK, DEVONA E	
			ART UNIT	PAPER NUMBER
			2644	

DATE MAILED: 06/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/593,924

Applicant(s)

CHRISOP ET AL.

Examiner

Devona E. Faulk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,4,6-9 and 11-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-9 and 11-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 6/13/2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

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**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments filed 12/22/2004 have been fully considered but they are not persuasive. The applicant essentially asserts on pages 5-7 that because prior art Mietling's data transmission and power are separated there is no need for high impedance to be presented at the communications interface to avoid degradation of the speaker performance. The examiner asserts that there is no evidence for this assertion. Furthermore, Meitling discloses that the same electrical line can be used for the data transmission and for driving the loudspeaker (column 3, lines 27-31). The examiner has addressed this argument with reference Bridges.
2. Claims 5 and 10 are cancelled.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1-3,9,11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mietling (U.S. Patent 6,385,322) in view of Bridges (U.S. Patent 4,751,464).

Regarding **claim 1**, Mietling discloses

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a speaker system operable to produce sound (public address system) comprising a speaker located in a speaker system (4) operable to generate sound in response to an audio signal (Figure 1; column 3, lines 32-35; A speaker is inherently present); and

a communication module<sup>7</sup> (7, comprised of 8 and 9; column 4, lines 30-33; column 3, lines 20-30) located in the speaker system operable to transmit information to an amplifier located separate from the speaker system in response to a carrier signal, wherein the information includes speaker characteristics (Figure 1; column 3, lines 45-60; column 2, lines 20-40; column 4, line 60-column 5, line 21 ).

Mietling discloses that the same electrical line can be used for the data transmission and for driving the loudspeaker (column 3, lines 27-31) but fails to specifically disclose that the communications module (cable connection 7) has high impedance at frequencies within an audio range of the speaker system. It is well known in the art that in speaker systems impedance plays an essential role in how well a speaker will perform.

Bridges discloses a cable that is at high impedance at audio frequencies (column 5, lines 40-45). It would have been obvious to have the communication module have high impedance at frequencies within an audio range as taught by Bridges in order to prevent degradation.

**Claim 2** claims the speaker system of claim 1, wherein the communication module transmits from the speaker system to the

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amplifier across wires. **Claim 3** claims the speaker system of claim 1, wherein the communication module transmits information from the speaker system to the amplifier using a wireless connection.

Regarding **claims 2 and 3**, Mietling discloses that the communication module can transmit information from the speaker system to the amplifier across wires or using a wireless connection (column 3, lines 40-44).

Regarding **claim 9**, Mietling discloses a method for operating a speaker system in a sound system comprising

generating a carrier signal from an amplifier (2) and the speaker system (4), wherein the speaker system is located separate from the amplifier (Figure 1);

rectifying power from the carrier signal in a speaker system, wherein the power is used by a communication module (7, comprised of 8 and 9; column 4, lines 30-33; column 3, lines 20-30) located in the speaker system (column 5, lines 10-20);

and transmitting information from the speaker system to the amplifier using the communication module in the speaker system for as long as the carrier signal is present (column 5, lines 1-20).

Mietling discloses that the same electrical line can be used for the data transmission and for driving the loudspeaker (column 3, lines 27-31) but fails to specifically disclose that the communications module (cable connection 7) has high impedance at frequencies within an audio range of the speaker system. It is well known in the art

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that in speaker systems impedance plays an essential role in how well a speaker will perform.

Bridges discloses a cable that is at high impedance at audio frequencies (column 5, lines 40-45). It would have been obvious to have the communication module have high impedance at frequencies within an audio range as taught by Bridges in order to prevent degradation.

All elements of **claim 11** are comprehended by claim 9 (Figure 1).

40 5. **Claims 4, 11 and 15-17** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mietling (U.S. Patent 6,385,322) in view of Bridges (U.S. Patent 4,751,464) in further view of Konno et al. (U.S. Patent 6,282,296).

**Claim 4** claims the speaker system of claim 1, wherein the speaker system further comprises a high-pass filter and rectifier operable to derive output power from the carrier signal. Mietling as modified by Bridges meets all elements of that claim 1 but fails to disclose that the speaker system further comprises a high-pass filter and rectifier. Konno teaches of an audio reproducing apparatus that comprises a rectifier (20) and high-pass filter (17). Thus it would have been obvious to one of ordinary skill in the art to use Konno's concept of a high-pass filter and rectifier in order to provide the capability of converting an AC output to a DC output.

Regarding **claim 15**, Mietling discloses a speaker system (public address system) comprising:

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a speaker connector operable to connect the speaker system an amplifier located separate from the speaker system (Figure 1);

speaker hardware operable to generate sound from an audio signal received from the speaker connectors (Figure 1);

and a communications module ( 7, comprised of 8 and 9; column 4, lines 30-33; column 3, lines 20-30Figure 1).

Mietling discloses that the same electrical line can be used for the data transmission and for driving the loudspeaker (column 3, lines 27-31) but fails to specifically disclose that the communications module (cable connection 7) has high impedance at frequencies within an audio range of the speaker system. It is well known in the art that in speaker systems impedance plays an essential role in how well a speaker will perform.

Bridges discloses a cable that is at high impedance at audio frequencies (column 5, lines 40-45). It would have been obvious to have the communication module have high impedance at frequencies within an audio range as taught by Bridges in order to prevent degradation.

Mietling as modified by Bridges fails to disclose a high-pass filter operable to pass a high frequency carrier signal received from the speaker connector; a rectifier operable to receive the high frequency carrier signal and convert it into a power signal; and a communications module operable to receive the power signal form the rectifier and transmit static characteristics of the speaker hardware to the amplifier using the speaker connector. However the concept of

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a high-pass filter, rectifier and communications module as claimed was well known in the art at the time of filing as taught by Konno. Konno discloses an audio reproducing apparatus comprising a high pass filter (17) as claimed, and a rectifier (20) as claimed, and a variable gain circuit (11) that reads on the communication module. A module is defined as a self-contained assembly of electronic components and circuitry. Thus it would have been obvious to one of ordinary skill to use Konno's concept of an audio reproducing apparatus comprising a high-pass filter, rectifier and that rectifier supplying power to a communication module in order to provide the capability to filter out a desired frequency and to convert AC power to DC power.

All elements of **claims 16 and 17** are comprehended by claim 15 (Mietling; column 3, lines 40-45). Therefore, claims 16 and 17 are rejected for reasons given above apropos of claim 15.

6. **Claims 6 and 12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mietling (U.S. Patent 6,385,322) in view of Bridges (U.S. Patent 4,751,464) in further view of Erickson (U.S. Patent 4,688,257).

**Claim 6** claims the speaker system of claim 1, wherein the communication module communicates via one of the group comprising amplitude modulation, phase-shift keying, and two-tone modulation.

**Claim 12** claims the method of claim 9, wherein the transmitting information from the speaker system to the amplifier is accomplished using one of the group comprising amplitude modulation, phase-shift keying and two-tone modulation.



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Mietling as modified by Bridges meets all elements of claim 1 but fails to disclose that transmission is via one of amplitude modulation, phase-shift keying and two-tone modulation.

Mietling as modified by Bridges discloses that data can be transferred by wireless transmission or radio transmission (column 3, lines 40-45. Erickson discloses a wireless communication system that can use amplitude modulation to transmit data (column 3, lines 25-30). Thus it would have been obvious to one of ordinary skill in the art to use amplitude modulation as taught by Erickson in order to use a proven communication method.

7. **Claims 7 and 13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mietling (U.S. Patent 6,385,322) in view of Bridges (U.S. Patent 4,751,464) in further view of Langston (U.S. Patent 6,272,351).

**Claim 7** claims the speaker system of claim 1; wherein the information transmitted by the communication module from the speaker system to the amplifier is transmitted in a separate frequency band from the audio signal.

**Claim 13** claims the method of claim 9, wherein the information is transmitted in a frequency band separate from a frequency band used by an audio signal.

Mietling as modified by Bridges meets all elements of claim 9 but fails to teach that information is transmitted in a frequency band separate from a frequency-band used by an audio signal. Mietling as modified by Bridges discloses that data can be transferred by wireless

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transmission or radio transmission (column 3, lines 40-45) and teaches of power amplifier communicating with two speakers (Figure 3).

Langston discloses transmitted data in a separate frequency band from another signal (column 7, line 62-column 8, line 4). Thus it would have been obvious to modify Mietling as modified by Bridges to transmit in a frequency band separate from a frequency band used by an audio signal as taught by Langston in order to allocate a separate band so that signal modulation and demodulation is not required at each speaker.

8. **Claims 8 and 14** are rejected under 35 U.S.C. 103(a) as being unpatentable over Mietling (U.S. Patent 6,385,322) in view of Bridges (U.S. Patent 4,751,464) in further view of Long et al. (U.S. Patent 5,640,385).

**Claim 8** claims the speaker system of claim 1, wherein the information is transmitted by the communication module from the speaker system to the amplifier is transmitted in a frequency band that overlaps the audio signal.

**Claim 14** claims the method of claim 9, wherein the information is transmitted by the in a frequency band that overlaps the frequency band used by an audio signal

Mietling as modified by Bridges meets all elements of claims 1 and 9 but fails to disclose that information is transmitted as claimed. Mietling as modified by Bridges discloses that data can be transferred by wireless transmission or radio transmission (column 3, lines 40-45). Long discloses transmitted information in a frequency

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band that overlaps an audio signal (claim 1). Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to transmit the information in a frequency band that overlaps the frequency band used by an audio signal as taught by Long in order to permit transmission to other wireless units.

**Conclusion**

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent 6,766,025 to Levy et al. discloses an intelligent speaker training using microphone feedback and pre-loaded templates.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devona E. Faulk whose telephone number is 571-272-7515. The examiner can normally be reached on 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sinh Tran can be reached on 571-272-7564. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



**SINH TRAN**  
**SUPERVISORY PATENT EXAMINER**

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